

WHAT IS CLAIMED IS:

1. A wick structure to be attached to an internal wall of a tubular member, comprising a mesh in the form of an elongate circular ring and a plurality of particulates embedded in interstices of the mesh, wherein the mesh and the
5 particulates embedded therein are attached to the internal wall of the tubular member by a sintering process.

2. The structure of Claim 1, wherein the tubular member is fabricated from a good thermal conductive metal material.

3. The structure of Claim 1, wherein the mesh includes a woven mesh.

10 4. The structure of Claim 1, wherein the tubular member includes an open end and a close end, and the mesh extends towards an internal bottom surface of the close end.

5. The structure of Claim 1, wherein the tubular member has a fusion point higher than that of the wick structure.

15 6. The structure of Claim 5, wherein the mesh is fabricated from a thin layer with a plurality of porosities.

7. The structure of Claim 6, wherein the thin layer includes a plurality of recesses and protrusions.

20 8. The structure of Claim 1, wherein the particulates have a fusion point lower than that of the mesh.

9. The structure of Claim 1, wherein the particulates include metal powders.

10. The structure of Claim 1, wherein the particulates include a plurality of fine broken fibers.

25 11. The structure of Claim 1, further comprising a support member disposed in the tubular member to press the wick structure against the internal wall of the tubular member.

12. The structure of Claim 10, wherein the support member has a fusion point higher than those of the mesh and the particulates.
13. The structure of Claim 10, wherein the support member includes a plate spiral structure.
- 5 14. The structure of Claim 10, wherein the support member includes a linear spiral structure.
15. The structure of Claim 10, wherein the support member includes a porous plate curled as a roll.
16. The structure of Claim 10, wherein the support member is fabricated
10 from a resilient material.